

Requirement specification document of intelligent manufacturing enterprise rating system

Document modification history

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1. Introduction

1.1 purpose

This document describes the functional and non functional requirements of intelligent manufacturing enterprise rating system. The software system implementation and verification of the development team are based on this document.

1.2 scope

Intelligent manufacturing enterprise rating system is an intelligent enterprise rating system developed by our company. The purpose of development is to enable banks, including other financial groups, to accurately and comprehensively evaluate the financial strength and development status of the enterprise, so as to have a deeper understanding of all aspects of the enterprise.

Enterprises fill in our two integration index system form, the system will intelligently give rating data publicity, and all enterprises can also view their own rating reports in the system, and can also search the rating reports of other enterprises

1.3 references

1) IEEE Standard

2. General description

2.1 project prospect

2.1.1 background and opportunities

Intelligent manufacturing is a new production mode based on the deep integration of new generation information communication technology and advanced manufacturing technology, which runs through all aspects of design, production, management, service and manufacturing activities. It has the functions of self perception, self-learning, self decision, self execution, self adaptation, etc., including intelligent manufacturing technology and intelligent manufacturing system. Taking intelligent manufacturing as the leading factor and using information physics system to realize the modernization of production mode.

After entering the era of intelligent manufacturing, the investment scale of equipment transformation and upgrading is larger and the risk is higher, and it is difficult to accurately price its financial leasing business, the depreciation of intelligent equipment is faster than that of traditional equipment, and the realization is more difficult. Therefore, intelligent manufacturing is quietly changing the pattern of China's financial leasing market, which mainly uses ordinary machinery and equipment as the financing carrier. The conditions for the effective operation of the traditional financial leasing mode will have profound changes, and its development is restricted by capital, financing channels, risks and information.

The goal of credit evaluation of intelligent manufacturing industry is to improve the credit analysis index of intelligent manufacturing industry (or build a more comprehensive evaluation system) with the help of specific financial model, so as to solve the financing difficulties caused by information asymmetry between enterprises and financial institutions. Intelligent manufacturing industry is an emerging field, and its evaluation index system needs to be improved with the development of intelligent manufacturing industry.

Our intelligent manufacturing enterprise rating system is developed to solve the above problems. Through the independent filling data of enterprises, we will intelligently give the rating data publicity, and all enterprises can also view their own rating reports in the system, and can also search the rating reports of other enterprises. The system adopts distributed deployment, including database and client. The database stores all data for maintenance. Users complete daily tasks through the client. The data exchange between client and database is completed by real-time communication.

2.1.2 business requirements

- After understanding the information, financing is difficult
- Information asymmetry
- Time to review materials

BR1: after the system has been used for six months, the average loan time of enterprises has decreased by more than 30%

BR2: after using the system for six months, the cost of bank audit will decrease by more than 20%

BR3: after using the system for 12 months, the non-performing loan ratio of banks will be reduced by 20%

Best case: 40%

Most likely: 20%

Worst case: 10%

2.2 Project function

SF1: tourists, individuals, and enterprise users select the level to view the specific level of enterprise publicity
SF2: tourists, individuals and enterprises search to see the rating announcement of specific enterprises
SF3: individual and enterprise users can view the detailed rating announcement of a specific enterprise
SF4: enterprise users apply for rating publicity
SF5: fill in rating report data such as integration index and financial index
SF6: enterprise users view their own reports
SF7: individual and enterprise users view their past browsing records
SF8: personal and enterprise users view and modify their personal data
SF9: individual and enterprise users can export PDF of enterprise report

2.3 User characteristics

user	characteristics
customers	As the largest group of system users, customers use the system with different frequency. At the same time, the number of companies may be larger than the number of individuals. For those enterprises with urgent financing and legal compliance, we should visit and browse our enterprises before financing. At the same time, for banks, when they work, they will also browse this page to see the details of specific financing enterprises.
tourists	It accounts for a small part, but it has the potential to become our customers in the future.

2.4 constraints

CON1: the system uses web interface.
CON2: the project adopts distributed deployment.
CON3: in the development, developers should submit software requirements specification document, design description document and test report.

2.5 hypothesis and dependence

AE1: the network is unblocked and there will be no failure.
AE2: the completion time of all operation tasks will not exceed 1 hour, that is, the use of pause and interrupt will not exceed 1 hour
AE3: the city and business district in the address are relatively fixed, which are preset in the system data in advance, and a small amount of modification is directly carried out in the background data, so the system does not need to provide maintenance function
AE4: Reservation cannot be made when available rooms are empty.

3 detailed requirement description

3.1 interface requirement

3.1.1 user graph

omitted

3.1.2 communication interface

CI: The client communicates with the server using restapi.

3.2 functional requirements

3.2.1 Tourists, individuals, and business users choose the level to view the specific level of enterprise publicity

3.2.1.1 characteristic description

when users browse enterprise publicity, they can choose five levels: all, SSS, a, B, C, D.
Priority = high

3.2.1.2 stimulus / response sequence

Stimulation: individual or enterprise users open the website home page
Stimulation: the system displays the login page, including the input box and login button of user name, password and verification code
Stimulation: individual or enterprise users input account and password, verification code, click login
Response: the system judges the identity information and successfully jumps to the personal homepage
Stimulation: customers choose rating publicity
Response: the system displays the name, rating, email and telephone number of the enterprise. And presents all, SSS, a, B, C, D, five levels of optional buttons
Stimulation: customer SSS level
Response: the system displays the name, rating, email and telephone information of SSS level enterprises

3.2.1.3 related functional requirements

```
enterprise.blImpl.enterprise . getenterprisebyid; get the specific enterprise
through the enterprise ID, and then display the specific information
enterprise.blImpl.enterprise . getenterpriseimglist; get the image list of the
enterprise to show the image of the company
enterprise.blImpl.enterprise . getEnterpriseById.searchEpByKey Enter the name of
the enterprise to search in the search bar
enterprise.blImpl.enterprise . getinfo; get enterprise information
enterprise.blImpl.enterprise . addenterprisetarget; gets the information filled
in by the enterprise
enterprise.blImpl.enterprise . updateenterprise finantarget; to update the
information of the data
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise
target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the
same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the
case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the
company in the percentage of the industry
```

3.2.2 Tourists, individuals and enterprises search to see the rating announcement of specific enterprises

3.2.1.1 characteristic description

When visitors who have not logged in, or individuals who have logged in, and enterprise users browse the system, the system displays the corresponding result rating formula according to the enterprise name entered by customers
Priority = high

3.2.2.2 stimulus / response sequence

Stimulation: users click to open the rating publicity page
Response: the system displays the rating publicity page and the search bar
Stimulation: users enter the enterprise name to search
Response: the system displays the rating announcement of the corresponding enterprise

3.2.2.3 related functional requirements

```
enterprise.blImpl.enterprise . getenterprisebyid; get the specific enterprise
through the enterprise ID, and then display the specific information
enterprise.blImpl.enterprise . getenterpriseimglist; get the image list of the
enterprise to show the image of the company
enterprise.blImpl.enterprise . getEnterpriseById.searchEpByKey Enter the name of
the enterprise to search in the search bar
enterprise.blImpl.enterprise . getinfo; get enterprise information
enterprise.blImpl.enterprise . addenterprisetarget; gets the information filled
in by the enterprise
enterprise.blImpl.enterprise . updateenterprise finantarget; to update the
information of the data
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise
target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the
same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the
case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the
company in the percentage of the industry
```

3.2.3 Individual and enterprise users can view the detailed rating announcement of a specific enterprise

3.2.3.1 characteristic description

Individual or enterprise users can view the detailed rating announcement of a specific enterprise at the rating announcement office,
Priority = high

3.2.3.2 stimulus / response sequence

Stimulation: individual or enterprise users open the website home page
Stimulation: the system displays the login page, including the input box and login button of user name, password and verification code
Stimulation: individual or enterprise users input account and password, verification code, click login
Response: the system judges the identity information and successfully jumps to the personal homepage
Stimulation: individual or enterprise users click the rating publicity button
Response: the system displays the name, rating, email and telephone number of the enterprise. And presents all, SSS, A, B, C, D, five levels of optional buttons
Stimulation: users select specific enterprises and click detailed report
Response: the system displays the specific information of the enterprise.

3.2.3.3 related functional requirements

```

enterprise.blImpl.enterprise . getenterprisebyid; get the specific enterprise
through the enterprise ID, and then display the specific information
enterprise.blImpl.enterprise . getenterpriseimglist; get the image list of the
enterprise to show the image of the company
enterprise.blImpl.enterprise . getEnterpriseById.searchEpByKey Enter the name of
the enterprise to search in the search bar
enterprise.blImpl.enterprise . addenterprisetarget; add more specific company
goals to choose from
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise
target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the
same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the
case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the
company in the percentage of the industry
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise

```

3.2.4 Enterprise users apply for rating publicity

3.2.4.1 characteristic description

After logging into the system, enterprise users can click apply for rating in my rating to apply for rating.
Priority = high

3.2.4.2 stimulus / response sequence

```

Stimulation: enterprise users open this system
Response: the system displays the login page
Stimulation: system user input account name and password, click login
Response: the system displays the home page of the system after login
Stimulation: enterprise users click my rating
Response: the system displays my rating page
Stimulation: enterprise users click to apply for rating
Response: the system displays the rating page, showing financial indicators and
enterprise types

```

3.2.4.3 related functional requirements

```

enterprise.blImpl.enterprise . login; enterprise login
enterprise.blImpl.enterprise . createnewenterprice; to register an enterprise
enterprise.blImpl.enterprise . getenterprisebyid; get the enterprise number by
the enterprise number
enterprise.blImpl.enterprise . updateenterprise; to update enterprise
information

```


3.2.5 Enterprise users fill in rating report data such as integration index and financial index

3.2.5.1 characteristic description

After applying for rating publicity, enterprise users fill in and submit their own information
Priority = high

3.2.5.2 stimulus / response sequence

Stimulation: enterprise users open website home page
Stimulation: the system displays the login page, including the input box and login button of user name, password and verification code
Stimulation: enter the account number, password, verification code and click login
Response: the system judges the identity information and successfully jumps to the personal homepage
Stimulation: enterprise users choose their own types, including process industry, service industry, mixed industry, discrete large batch industry, discrete small and medium batch industry.
Response: the system displays the data to be filled in, including filling in the integration index system and financial indicators.
Stimulation: after the enterprise user completes filling in, click Submit
Response: the system shows that the submission is successful and the evaluation result has been generated

3.2.5.3 related functional requirements

enterprise.blImpl.enterprise . login; enterprise login
enterprise.blImpl.enterprise . createnewenterprise; to register an enterprise
enterprise.blImpl.enterprise . getinfo; get the information filled in by the enterprise
enterprise.blImpl.enterprise . getenterprisebyid; get the enterprise number by the enterprise number
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the company in the percentage of the industry
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific analysis of an enterprise

3.2.6 Enterprise users view their own reports

3.2.6.1 characteristic description

Enterprise users can view their own exclusive reports after rating declaration and filling in rating report data such as integration indicators and financial indicators.
Priority = high

3.2.6.2 stimulus / response sequence

Stimulation: enterprise users open this system
Response: the system displays the login page
Stimulation: system user input account name and password, click login
Response: the system displays the home page of the system after login
Stimulation: enterprise users click my rating
Response: the system displays my rating page
Stimulation: enterprise users click to view reports
Response: the system displays its own rating report page of integration of industrialization and industrialization
Stimulation: enterprise users click to export pdf
Response: the system pops up a window to display the location to be saved
Stimulation: enterprise users enter the location to be saved and click OK
Response: the system saves the exported PDF to the user's specified location.

3.2.6.3 related functional requirements

enterprise.blImpl.enterprise . login; enterprise login
enterprise.blImpl.enterprise . createnewenterprice; to register an enterprise
enterprise.blImpl.enterprise . getenterprisebyid; get the enterprise number by the enterprise number
enterprise.blImpl.enterprise . getinfo; get enterprise information
enterprise.blImpl.enterprise . addenterprisetarget; gets the information filled in by the enterprise
enterprise.blImpl.enterprise . updateenterprise finantarget; to update the information of the data
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the company in the percentage of the industry
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific analysis of an enterprise

3.2.7 Users browse their browsing records

3.2.7.1 characteristic description

After entering the personal center interface, customers can view the information they have browsed before in "browsing records" in "personal center"
Priority = low

3.2.7.2 stimulus / response sequence

Stimulation: individual or enterprise users open the website home page
Stimulation: the system displays the login page, including the input box and login button of user name, password and verification code
Stimulation: individual or enterprise users input account and password, verification code, click login
Response: the system judges the identity information and successfully jumps to the personal homepage
Stimulation: customers enter personal center page
Response: the system displays the customer's personal center page
Stimulation: customers choose browsing records
Response: the system displays the history of browsing

3.2.7.3 related functional requirements

user.bImpl.browse . getbrowsebyuid; the system displays the user's history,
user.bImpl.browse . insertbrowse; when users browse, add records
user.bImpl.browse . deletebrowse users delete their browsing records
user.bImpl.user . login; the customer logs in
user.bImpl.user . CREATEUSER; customer registration
user.bImpl.user . updateuser; customer modify information
user.bImpl.user . getUserInfo; to display customer information
user.bImpl.user . getusernum; gets the number of the customer

3.2.8 Customers view and modify their personal data

3.2.8.1 characteristic description

After entering the personal center interface, customers can modify their data here
Priority = high

3.2.8.2 stimulus / response sequence

Stimulation: individual or enterprise users open the website home page
Stimulation: the system displays the login page, including the input box and login button of user name, password and verification code
Stimulation: individual or enterprise users input account and password, verification code, click login
Response: the system judges the identity information and successfully jumps to the personal homepage
Stimulation: customers enter personal Center
Response: the system displays the page of personal center
Stimulation: customers click profile
Response: the system displays the personal information page
Stimulation: customers click to modify information
Response: the system displays the interface of modifying information, including the modification box of nickname, email, contact information and password
Stimulation: customer input completed, click OK
Response: the system saves the data and displays the modified personal information

3.2.8.3 related functional requirements

```
user.blImpl.user . login; the customer logs in
user.blImpl.user . CREATEUSER; customer registration
user.blImpl.user . updateuser; customer modify information
user.blImpl.user . getUserInfo; to display customer information
user.blImpl.user . getusernum; gets the number of the customer
user.blImpl.user . deletebrowse; delete your own browsing record
user.blImpl.user . getbrowsebyid; get browsing records through uid
```

3.2.9 enterprise users view their own reports

3.2.9.1 characteristic description

when individual and enterprise users click to open the detailed rating report of an enterprise, they can export PDF and save it locally

Priority = high

3.2.9.2 stimulus / response sequence

```
Stimulation: individual, enterprise users open the system
Response: the system displays the login page
Stimulation: individual, system user input account name and password, click
login
Response: the system displays the home page of the system after login
Stimulation: individual and enterprise users click Rating Report
Response: the system displays my multiple rating reports
Stimulation: individual, enterprise users click on a specific enterprise report
Response: the system displays its own rating report page of integration of
industrialization and industrialization
Stimulation: individual and enterprise users click to export pdf
Response: the system pops up a window to display the location to be saved
Stimulation: individual and enterprise users enter the location to be saved and
click OK
Response: the system saves the exported PDF to the user's specified location.
```

3.2.9.3 Related functional requirements

```
enterprise.blImpl.enterprise . login; enterprise login
enterprise.blImpl.enterprise . createnewenterprise; to register an enterprise
enterprise.blImpl.enterprise . getenterprisebyid; get the enterprise number by
the enterprise number
enterprise.blImpl.enterprise . getinfo; get enterprise information
enterprise.blImpl.enterprise . addenterprisetarget; gets the information filled
in by the enterprise
enterprise.blImpl.enterprise . updateenterprise finantarget; to update the
information of the data
enterprise.blImpl.enterprise . getenterprisetarget; get a specific enterprise
target
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise
enterprise.blImpl.enterprise . updatable; update the score of enterprises of the
same type, percentage
enterprise.blImpl.enterprise . updatepercent; the percentage of updates in the
case of new business registration
enterprise.blImpl.enterprise . getpercent; get the ranking and strength of the
company in the percentage of the industry
enterprise.blImpl.enterprise . addenterprisetarget; system shows the specific
analysis of an enterprise
```

3.3 non functional requirements

3.3.1 safety

Safety1: users can only view and maintain their own information.

Safety2: users are not allowed to modify any information when viewing enterprise ratings

Safety3: tourists can't view the details of the enterprise, they can only search and view the simplest information

Safety4: in order to prevent information leakage, the user's account number, password, name (name) and contact information must be stored in ciphertext.

3.3.2 maintainability

Modifiability 1: when enterprise users apply for enterprise rating, they have timely filled in and submitted the fusion index system form and financial data, and the system should understand and give the rating report for enterprises to view

Modifiability 2: if the system wants to add new evaluation indicators (such as increasing the total number of company loans), it needs to be completed by one person in one day

Modifiability 3: if the system wants to add membership service, it should be able to complete within one person and one month.

3.3.3 ease of use

Usability1: all types of personnel can complete any operation task in 10 minutes without special training.

3.3.4 reliability

Reliability1: when the client communicates with the server, if the data is lost, the system should not modify the background data and ask the client to retransmit the data.

3.3.5 business rules

nothing

3.3.6 constraints

IC1: the project adopts distributed deployment, and individual, tourist and enterprise users are distributed in different places, so it is necessary to provide their own application deployment.

3.4 data requirements

3.4.1 data definition

DR1: the system needs to store users' browsing records and query records within one year

DR2: after the system is deleted, the enterprise and personal data and user data still need to be stored for 3 months to ensure the correctness of historical data display

DR3: the system needs to store the user's account, password, email and telephone number

DR4: the system needs to store the output value rate of new products of enterprise customers, the online procurement rate, the functions and levels of applying information system for project management, the comprehensive implementation of enterprise strategic planning and comprehensive budget management through informatization, the implementation of informatization planning, the functions and levels of applying informatization means for equipment management, and the implementation of informatization means The functions and levels of human resource management, the realization of value network collaboration through the establishment of Internet open community, the realization of business collaboration and integration through informatization, the information interaction and sharing among enterprises in the industrial chain, the realization of green development in the whole life cycle of products by means of informatization, and the transformation of workshop manufacturing execution system (or scheduling system) to operation mode The management system automatically uploads information scope, automatically collects information and conducts comprehensive analysis based on intelligent knowledge model, the proportion of information system operation and maintenance investment in the total informatization investment, the proportion (%) of the minimum scheduling unit (or production line) number in the total minimum scheduling unit (or production line) number, and the application of informatization means for energy management The function (, social contribution rate (%), the operation and management system automatically sends instructions to the workshop manufacturing execution system (or scheduling system), the manufacturing process control system automatically uploads information coverage to the workshop manufacturing execution system (or scheduling system), and the workshop manufacturing execution system (or scheduling system) automatically uploads information coverage to the workshop manufacturing process control system Information technology is used to carry out the management of material demand plan, R & D and design, information system is used to carry out the links covered by the integrated management of internal supply chain, and industrial software innovation ability.

DR5: net cash flow from operating activities, net income from operating activities (TTM), current ratio, quick ratio, net cash flow from operating activities / current liabilities, total tangible assets / liabilities, total operating income (year-on-year growth rate), total profit (year-on-year growth rate)) Total liabilities (year-on-year growth rate), asset liability ratio, return on net assets, ROE (weighted), net profit rate of sales, gross profit rate of sales, financial expenses / total operating income, days of inventory turnover, turnover rate of current assets, turnover rate of accounts receivable, multiple of interest earned (EBIT / interest expense), and industry prosperity index. 气指数。

3.4.2 default data

The default data is used in the following two cases:

- when the system adds new data.
- when editing data, the related contents are cleared carelessly.

Default1: the default time is the current day.

Default2: the operator's ID is the current login user by default.

3.4.3 data format requirements

Format1: the user's phone number must be a string of more than 7 digits

Format2: the user's password must be more than six digits

Format3: date must be in the format of XXX YY ZZ.

Format4: the format of quantity must be a positive integer.

3.5 others

Users are advised to register when using the system for the first time.

Users are advised to log in when using the system in the future

Tourists can also use some functions